WHAT IS CLAIMED IS:

1. An apparatus, comprising,

a substrate having a planar surface

first and second electrodes located on said planar surface, said first electrode having a top surface and a lateral surface, said lateral surface having an edge near or in contact with said substrate;

an electrode insulating layer located on said top surface;

a self-assembled layer located on said lateral surface; and

wherein said second electrode is in contact with both said self-assembled layer and said electrode insulating layer.

2. The apparatus of claim 1, wherein said self-assembled layer comprises a stack of at least two self-assembled layers.

3. The apparatus of Claim 2, wherein said stack of self-assembled layers comprises an end group of a first organic molecule in a first self-assembled layer chemically coupled to an end group of a second organic molecule in a second self-assembled layer.

4. The apparatus of Claim 3, wherein said coupling between said end groups of said first and second organic molecules includes a copper bridge.

5. The apparatus of Claim 1, wherein said self-assembled layer comprises non-conductive organic molecules.

6. The apparatus of Claim 1, wherein said self-assembled layer comprises semiconductive organic molecules.

7. The apparatus of Claim 1, wherein said self-assembled layer is covalently bonded to said lateral surface.

8. The apparatus of Claim 1, wherein said self-assembled layer comprises a channel and said apparatus comprises an organic field effect transistor, wherein said channel has a charge mobility of at least about 1×10^{-3} V^{-1} s^{-1}.

9. The apparatus of Claim 1, wherein a footprint of said electrode insulating layer is substantially aligned with said top surface.

10. A method comprising,

forming a first electrode on a planar surface of a substrate, said first electrode having a top surface and a lateral surface;

forming an electrode insulating layer on said top surface;

forming a self-assembling layer on said lateral surface; and

forming a second electrode on said planar surface such that said second electrode is in contact with both said self-assembling layer and said electrode insulating layer.

11. The method of Claim 10, wherein said self-assembling layer comprises a stack of at least two self-assembled monolayers.

12. The method of Claim 11, wherein said stack is formed by depositing a first self-assembling monolayer of organic molecules on said lateral surface and bonding ends of said organic molecules to ends of organic molecules of a second self-assembling monolayer.

13. The method of Claim 10, wherein forming said self-assembling layer comprises linking ends of self-assembling monolayers together through metal-sulphur bonds.

14. The method of Claim 13, wherein said linking ends comprises alternating exposing said lateral surface to self-assembling organic molecules and a coupling agent.

15. The method of Claim 14, wherein said coupling agent comprises cupric perchlorate and said self-assembling organic molecules comprise mercapto-functionalized organic molecules.

16. The method of Claim 10, wherein said self-assembling layer comprises nonconductive organic molecules.

17. The method of Claim 10, wherein said self-assembling layer comprises semiconductive organic molecules.

18. The method of Claim 10, further comprises forming an organic field effect transistor, said first and second electrodes being source and drain electrodes of said transistor.

19. The method of Claim 10, further comprises forming an organic field effect transistor, wherein a yield of said transistors having an absence of electrical defects is greater than about 90 percent.

20. The method of Claim 10, wherein said first electrode and electrode insulating layer are formed using collimated vapor beam deposition such that a footprint of said electrode insulating layer is substantially aligned with said top surface.